

IN THE CLAIMS

1. (currently amended) Electric motor (1) comprising a stator (2), a magnetic induction core (3) constrained to said stator, at one coil of magnetic excitation (4a, 4b) associated to said induction core, a rotor (5) of substantially cylindrical shape comprising at least one permanent magnet adapted to form on said rotor at least two magnetic poles of opposite polarity, said induction core and said at least one coil being adapted to form at least two magnetic induction poles of opposite polarity on said induction core, characterized in that said induction core is produced in a single body and comprises a circular central hole (31) for housing said rotor (5), a ring-shaped air gap (8) between said rotor(5) and said induction core, at least two opposing extensions adapted to form said at least two magnetic induction poles in opposite position for each other and in proximity to said circular central hole, at least two opposing and external magnetic separation notches on an outer surface of said induction core , said external magnetic separation notches being alternately arranged in respect to said extensions, adapted to generate a magnetic separation between two adjacent, opposite-sign poles of the induction core, such that the rotor is arranged with each magnetic pole between two adjacent poles of the induction core when the motor is de-energised.

2. (canceled).

3. (original) Motor according to claim 1, in which said induction core (3'') comprises four equidistant extensions (32'', 33'', 34'', 35'').

4. (original) Motor according to claim 3, in which said rotor (5'') comprises four equidistant permanent magnets (51'', 52'', 53'', 54'').

5. (original) Motor according to claim 1, in which said induction core (3') comprises two opposing extensions (32', 33').
6. (original) Motor according to claim 5, in which said rotor (5') comprises two opposing permanent magnets (51', 52').
7. (original) Motor according to claim 1, in which said rotor comprises a single permanent magnet with alternate poles arranged on the side surface of said rotor.
8. (original) Motor according to claim 1, comprising a polarity sensor adapted to control the position of the rotor.
9. (original) Motor according to claim 8, in which said sensor is a Hall -Effect sensor.
10. (original) Motor according to claim 1, characterised in that electrical energy is gained by the ends of the induction coils when mechanical energy is applied to the rotation axis.
11. (original) Motor according to claims 1, 4, ~~and~~ or 6 characterised in that permanent magnets are secured by insertion.
12. (original) Motor according to claims 1 ~~and~~ or 3 characterised in that a coil is associated with the induction pole.
- 13 (original) Motor according to claim 8, characterised in that the polarity sensor is optical.
14. (currently amended) Motor according to claims 1 ~~and~~ or 8, characterised in that ~~the~~ polarity exchange is carried out with a brush manifold.